Claims

1. A package device having a patterned lead frame with at least two isolated patterned dies mounted thereon, the package device additionally having a transformer component, the component being individually mounted to the lead frame between the at least two patterned dies, the transformer adapted to provide for the selective coupling of energy between the two dies.

2. The device as claimed in claim 1 wherein the selective coupling effects a rejection of some of the unwanted energy components so as to provide for a blocking of predefined component signals from coupling between the isolated patterned dies.

3. The device as claimed in claim 1 wherein the coupled energy is in the form of a power signal such that the coupling between the two dies is used to provide or share power between the two dies.

4. The device as claimed in claim 1 wherein the coupled energy is in the form of a communication signal such that a coupling of the energy effects a transfer of information between the two dies.

5. The device as claimed in claim 1 wherein the transformer component is formed as a planar transformer in a substrate, the substrate being mountable to the lead frame.

6. The device as claimed in claim 1 wherein the transformer component is a planar transformer and is formed using wafer level fabrication technology such as is used for forming redistribution layers in bumped chips.

7. The device as claimed in claim 6 wherein the transformer is fabricated on either a glass or silicon substrate which is then mounted to the lead frame.

8. The device as claimed in claim 1 wherein the transformer component is a discrete micro-miniaturized transformer.

9. The device as claimed in claim 8 wherein the micro-miniaturised transformer is fabricated using MEMS technology.

10. The device as claimed in claim 1 wherein the transformer component is coupled directly onto heat sinks of the lead frame, thereby providing for a reduction of thermal impedance within the package device.

11. The device as claimed in claim 1 wherein the substrate on which the transformer is formed is a flexible substrate.

12. The device as claimed in claim 11 wherein the flexible substrate is made from a polyimide material.

13. The device is claimed in claim 1 wherein in the transformer component includes at least two individual transformers, thereby allowing for multiple channels of communication.

14. An integrated multi-chip package device comprising a first chip, a second chip and an isolating transformer component provided between the first and second chip, the first chip, the second chip and the transformer component being formed on segmented portions of the lead frame of the package device.

15. The package device as claimed in claim 14 wherein configured in a north-south configuration.

16. The package device as claimed in claim 14 wherein configured in an east-west configuration.

17. A method of isolating components provided on a packaged multi-die device, the method comprising the steps of:

a) providing a patterned lead frame,

b) mounting on the lead frame a plurality of patterned dies, and

c) coupling energy between at least two of the patterned dies via an isolating transformer, the isolating transformer being provided on a separate component within the package to the dies being coupled.